Gizhaawaso Gikinoo'amaagozi:
Red Lake Safe Routes to School

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Abstract: In the 2009 reauthorization of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Congress provided the foundation for Safe Routes to School (SRTS) programs. Since then, a diverse set of programs have been implemented in rural and tribal communities throughout the country, and the literature provides insight to make Safe Routes work in Tribal communities. I reviewed the literature and best practices on Safe Routes in Tribal communities to make recommendations for the Red Lake Tribal Engineering Department and the Red Lake School District to prepare a request for Safe Routes to School Funding. I offer six recommendations, ranging from the addition of signage around the school zone and along bus routes, to reconstructing the Red Lake Elementary school parking lot.

*Gizhaawaso Gikinoo'amaagozi is the Ojibwe translation of how I felt this research could be connected culturally to the Red Lake Safe Routes to School Project. Translated into English, Gizhaawaso in Ojibwe means to protect young, and gikinoo'amaagozi means go to school. Together, I have translated them to mean "Protecting the young traveling to school."

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Introduction

In 2009, the United States collected data on injuries inflicted among students ages 5 to 15 walking or bicycling to and from school. The data revealed that roughly 23,000 students had been injured, while more than 250 students had been killed. The same study found that kids who are walking "are more than twice as likely to be struck by a vehicle in locations without sidewalks" (Safe Routes to School National Partnership, 2017). Aside from safety concerns, the United States has had to discuss the drastic decline in the number of students walking and bicycling to and from school. In 1969, 48% of children 5 to 14 years old walked or bicycled to school, and by 2009, the rate had decreased to only 13% of children between the age of 5 and 14 years (The National Center for Safe Routes to School, 2011). In 2005, the United States Congress passed the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which provided the foundation for Safe Routes to School. Safe Routes to School (SRTS) projects focus on improving student safety and wellbeing, as well as improving academic achievement and performance. Studies show that physical activity and fitness boost learning and memory in children (Safe Routes to School National Partnership, 2017).

The focus of this paper is on SRTS programming and provides resources to successfully implement programming, specifically for the Red Lake School District. It also focuses on program outcomes for schools and the surrounding community. Approaching the research with this focus directs the purpose of the paper, which is to analyze the implementing steps of SRTS and to make recommendations for the Red Lake School District.

The following is organized into three sections. The first section will define the problem brought forward by the Red Lake Tribal Engineering Division and the school district and will then present the setting and context to provide recommendations for Red Lake. The second section offers a background on SRTS, including its history and structure, followed by Minnesota SRTS programs and considerations for SRTS on tribal land. The last portion of the second section will conclude by expanding on the benefits of SRTS outside of improving student safety. The third section provides the methods and observations of site visits and offers recommendations for the project, all followed by the conclusion, which discusses how Red Lake can successfully implement programming.

In this report, I follow the lead of national SRTS programming in defining walking and bicycling to broadly include "students who arrive at school on skateboards, scooters, roller skates, in-line skates, and other non-motorized means, including children with disabilities," and schools to include "both public and private, and grade levels from kindergarten through eighth grade (unless otherwise specified)" (Smallwood, et al., 2008).

Problem and Setting

Problem

Safe Routes to School programming aims to be the "catalyst for the creation of safe, active, equitable, and healthy communities – urban, suburban, and rural – throughout the United States" (National Safe Routes to School Partnership, 2017a). The SRTS mission drives the programming, which is to advance safe walking and bicycling to and from school, thereby helping to improve the health and well-being of all kids. The Red Lake Tribal Engineering Division has requested assistance in articulating the needs through the collection of data and observations to help in the preparation of a request for the Tribal Engineering Division to submit for SRTS funding.

Setting

Red Lake Nation is in the Northwest part of Minnesota and has one of the largest lakes in the United States, divided into Upper and Lower Red Lake. Lower Red Lake includes most of the tribal nation's boundary, which in total, covers 1,258.62 square miles. Also, Red Lake Nation has four communities – Little Rock, Redby, Red Lake, and Ponemah. Lastly, it is important to make a note of the climate as conditions result in longer winters and shorter summers. Winters can become frigid, with the average low temperature getting to -36° (Indian Affairs Council, 2017). Therefore, students do not typically walk or bicycle to school year-round. However, if Red Lake can provide the district with safety measures, including snow removal and weather shelters, students can walk or bicycle to school more safely.

Given the circumstances, Red Lake has unique conditions and factors to reflect on while preparing for the submission of a proposal for SRTS funding. The Tribal Engineering Division should take into consideration the climate and rural conditions, as well what has worked in other comparable tribal communities. The following section provides background information on the

history and structure of SRTS programming, looking at the nation-wide programming, then narrowing it down to focus on Minnesota's SRTS program, followed by examining programming in rural communities, specifically in Tribal communities.

Background and Literature Review

Safe Routes to School – History and Structure

The following expands on the history of SRTS in the United States and its program structure. The structure includes the SRTS mission statement and program goals, and the Five E's approach. After the history and structure are explained, it will be easier to follow the structure of Minnesota SRTS programming (MnSRTS). The design of MnSRTS programs allow for the support of program partnerships and can be customized to fit urban, rural, and tribal settings. The third segment of this section will offer more in-depth details and considerations for implementing SRTS programs within tribal communities. The discussion will include added considerations Tribal SRTS programs must take, along with barriers faced by Tribal communities and proven strategies that work in tribal communities. The final segment of this section expands on the benefits of implementing SRTS programs aside from improving student safety, including improving academic achievements and educational outcomes, through improving the built environment and expanding instances of students actively commuting to and from school.

History

During the 1970s, a Danish initiative was enacted to reduce the rate in child mortality while walking or bicycling to school. During this time, the United States began researching how to improve children's safety while walking or bicycling to school, which led to the 1975 U.S. Department of Transportation's (USDOT) report titled "School Trip Safety and Urban Play Areas" (National Center for Safe Routes to School, 2017). As the necessity for research on school transportation methods grew around the world, SRTS became a policy focus area.

The aim of the School Trip Safety and Urban Play Areas reports was to offer the FHWA with guidelines to ensure (1) children's safety when traveling to and from school, (2) entering and exiting school buses and school bus safety, and (3) neighborhood play. The study found a

high number of primary aged students (ages 5-10) had been involved in pedestrian accidents compared to older children ages 10-14. Moreover, the study found that drivers ignore or are unaware of school signs that did not stand out and grab their attention (Reiss, 1975).

Reiss' study concluded that through safe route planning, parents and the community needed to be involved, along with the traffic engineering personnel and schools, to develop and improve student safety (Reiss, 1975). The FHWA and the USDOT began to increase research and planning efforts, which led to the modern-day SRTS program in 2005 (Trentacoste, 2004). The first unofficial SRTS project was conducted in 1997, in the Bronx, New York, which led to the United States Congress to provide funding for two pilot programs located in Marin County, California, and Arlington, Massachusetts (National Center for Safe Routes to School, 2017; Trentacoste, 2004).

The National Highway Traffic Safety Administration, located within the Department of Transportation, provided $50,000 for each pilot program. The pilot programs ignited a nationwide grassroots effort in 2002. And, in 2005, Congress passed federal legislation that established the SRTS program with funding administered by the FHWA. The act was titled Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) and was enacted to "improve safety on walking and bicycling routes to school and encourage children and families to travel between home and school using these modes" (National Center for Safe Routes to School, 2017). In 2012 when Congress passed Moving Ahead for Progress in the 21st Century (MAP-21), it combined SRTS with other pedestrian and bicycling programs into a new program called Transportation Alternatives Program (TAP). It no longer had dedicated SRTS funding; it gave greater discretion to state Departments of Transportation discretion to implement SRTS initiatives. MAP-21 was supplanted by the Fixing America's Surface Transportation Act (FAST Act) in December 2015 but left TAP funding at the levels established previously under MAP-21 (Safe Routes to School National Partnership, 2017).

As previously noted, the FHWA administered funding, as well as guidance and regulations (National Center for Safe Routes to School, 2017). The 2005 legislation dedicated $612 million until 2009, with each state guaranteed a minimum of $1 million per year in funding and dependent upon student enrollment. Each state has an SRTS Coordinator as required, who serves as the state contact. Any program located in rural, suburban, or urban areas use the

funding to complete infrastructure and non-infrastructure projects, with schools made up of varying socioeconomic backgrounds and all ranges of walking and bicycling conditions (National Center for Safe Routes to School, 2017).

Structure – Mission Statement and Goals

By SAFETEA-LU requirements, the Secretary of Transportation was to develop a national level task force composed of "leaders in health, transportation, and education, including representatives of appropriate federal agencies" (Smallwood, et al., 2008). The task force worked to develop and improve strategies that advanced the SRTS mission, which states that:

> Safe Routes to School programs will improve safety and encourage more American youth to walk and bicycle to school, thereby resulting in higher levels of physical activity, less traffic congestion, a cleaner environment, and an enhanced quality of life in our communities (Smallwood, et al., 2008).

Following the mission of SRTS, the task force provided programs with four goals: (1) "improve traffic safety and personal security for American school children who walk and bicycle to school;" (2) to "reduce traffic congestion and fuel consumption, and improve air quality;" (3) to "enable and encourage children to lead more physically active and healthy lifestyles;" and (4), to "improve the quality of life and self-reliance of school children" (Smallwood, et al., 2008).

Another aspect offered by the task force was a customizable approach to planning and implementing SRTS, called the SRTS Approach: The Five "E's." The following will further expand on this method.

Structure – The Five E's

Not all situations faced by schools are the same, which calls for programming to be malleable to each setting and situation. The following will consider the five E's – Evaluation, Engineering, Education and Encouragement, and Enforcement.

Evaluation. The evaluation stage is the recommended starting point in the SRTS process. The purpose of this step is to evaluate the school's site and situation and to decide if infrastructure projects, activity projects, or both will be necessary. It is during this stage that the

implementation team is established, and is made up of relevant stakeholders. I provide an outline (Appendix A), which identifies the interested parties and what they will provide and gain from SRTS.

The implementation team gathers information and data, which helps decide the direction programming will take, where data collection is important to ensure SRTS funding is being used most effectively. SRTS offers tools for schools to use during the evaluation stage, including parent surveys, student in-class travel tallies, and a program evaluation plan worksheet. After the evaluation is complete, schools can begin planning projects that will be most beneficial. Participating schools can choose from a variety of options, ranging from taking part in National Walk/Bicycle to School Day to infrastructure projects, such as adding sidewalks or paths along school travel routes.

Engineering. The engineering approach is most beneficial when funds will be used for adding and updating existing infrastructure. However, engineering could include updating school transportation routes or defining the school walk/bike zone, school zone, and the district enrollment zone. Schools looking to add or update existing infrastructure can choose from four strategies – around the school, along the school route, crossing the street, and slowing down traffic (Safe Routes to School National Partnership, 2016c). I provide tables (Appendix B) with strategies relevant to Red Lakes situation, which includes the purpose of each treatment, the expected results, the key(s) to success, key factors to consider, and evaluation methods.

Around the school engineering strategies address issues regarding the school zone and allows drivers to become more cautious of their driving when entering a school zone. The second strategy uses funds to make improvements and additions along the school route. This approach takes into consideration how students travel to and from school, and ways to increase the number of students actively commuting to school. The third strategy is to add or improve street crossings and is a way for the implementation team to engage with the stakeholders. This approach pinpoints areas that may need to be added or enhanced to be more accessible to all children and updating traffic controls in the area. Lastly, the fourth strategy implements engineering that focuses on slowing down traffic. This approach provides added support when tied into the first strategy.

SRTS programs are flexible and allow schools to use one or multiple strategies. However, not all schools chose to implement projects that require the use of the engineering stage and instead can rely on the three remaining E's.

Education and Encouragement. The education approach targets all stakeholders. Students can be educated on a bicycle and walking safety measures, while parents and other community members can be trained on how to travel safely around pedestrians and the school zones (Smallwood, et al., 2008). The education approach can happen in the classroom or outside, with a hands-on approach, where students at different grade levels receive age-appropriate information. A general example of a hands-on approach would include teaching fourth and fifth-grade students the basics of bicycling, while teachings students that are younger essential walking and bicycling skills, such as looking both ways before crossing a street (Safe Routes to School National Partnership, 2016).

Some students and their parents will need encouragement to take what they will learn about SRTS and pedestrian safety and put it into use. Some parents might even disregard the entire program if they believe it does not fit the school's needs or they have not been engaged in the process. Such instances are why the encouragement strategies are crucial for advancing the proposed projects and programs. I provide examples (Appendix C) of potential encouragement strategies relevant to Red Lakes situation, with each table providing a definition, their advantages, considerations, and steps to implementation. This strategy is not only to ensure that proposed projects move forward but to increase the number of children who are actively commuting to and from school (Safe Routes to School National Partnership, 2016a).

Enforcement. Using SRTS enforcement strategies successfully will help deter issues of unsafe driving and active commuting behaviors while encouraging road users to obey traffic laws and safely commute in and around school zones (Safe Routes to School National Partnership, 2016b). This approach can use a law enforcement strategy or community enforcement strategy.

The law enforcement approach is most useful when using a three-step method. The first step is to inform community stakeholders that there will be an increase in traffic law enforcement. The second step is to ensure that those individuals are aware and educated on laws

before they are enacted. The community members should be informed why such approaches are necessary to improve the safety of both themselves and the students. The third step is to provide officer training, which will help improve safety and decrease unsafe behaviors (Safe Routes to School National Partnership, 2016e).

The community enforcement strategy makes use of community members to enforce safe driving, walking, and bicycling behaviors. There are three ways to implement this strategy, which is to include safety patrols, adult school crossing guards, and neighborhood speed watch programs. Student safety patrols assist students arriving and leaving school. Adult school crossing guards can make use of community volunteers to monitor and ensure students are appropriately and safely using crosswalks while reminding drivers of the presence of students. The third strategy allows neighborhoods to work alongside law enforcement to monitor vehicle speeds (Safe Routes to School National Partnership, 2016).

These strategies used in enforcement promote each state to work with all stakeholders in the process and help each school to develop partnerships to improve the outcomes of Safe Routes programs.

Minnesota Safe Routes to School

As previously stated, each state is guaranteed at least $1 million dollars in funding and is required to have a lead coordinator to serve as the primary contact for the SRTS National Partnership. The following segment discusses the Minnesota Safe Routes to School (MnSRTS) program, and more specifically, how partnerships play a significant role in implementing MnSRTS. MnSRTS programming is made possible using partnerships that fall into four categories, (1) those that support the MnSRTS Resource Center and statewide initiatives, (2) the steering committee, (3) planning agencies, and (4) local public health partnerships.

Support for MnSRTS Initiatives. The first category provides support for MnSRTS online Resource Center and statewide initiatives. Partners include the Minnesota Department of Transportation (MnDOT), Bicycle Alliance of Minnesota (BikeMN), Minnesota Department of Health (MDH), and Blue Cross Blue Shield Minnesota Center for Prevention (BCBS MN).

MnDOT has supported MnSRTS since 2006 and provided grant opportunities for programming. BikeMN provides schools with the Walk! Bike! Fun! (WBF) Pedestrian and Bicycling Safety Curriculum (Appendix D) (BikeMN, 2017). MDH provides support to programming as part of their Statewide Health Improvement Program (SHIP), which provides resources that promote active living strategies for kids (MnSRTS, 2017). Lastly, BCBS MN offers a service called Network Calls. This service provides monthly web and phone based network calls for communities working with MnSRTS (MnSRTS, 2017a).

Steering Committee. The second category forms the steering committee. This committee is made up of 25 organizations, and are tasked with developing and completing the MnSRTS strategic plan, as well as assisting in the operations of the MnSRTS Resource Center (MnSRTS, 2017). The committee is chaired by non-profit organizations, public health professionals, cities and counties, educators, and regional planning organizations, along with MnDOT, Bike MN, MDH, and BCBS MN (MnSRTS, 2017).

Planning Agency Partnerships. The third category is made up of planning agencies from across the state. They work with Local Public Health representatives and MnDOT on programs and planning in their respective regions or districts. This category is further split into three categories, the Metropolitan Planning Organizations (MPO), Regional Development Organizations (RDO), and Area Transportation Partnerships (ATP). Because MPOs do not cover the area in which Red Lake is located, they will not be further explained.

RDOs work on statewide transportation planning and programming and are essential partners in working with MnDOT (MN DOT, 2017). Minnesota has 10 RDOs, with Red Lake represented through the Headwaters RDC located in Region 2. ATPs are made up of representatives and can be traditional or non-traditional in nature. Along with MnDOT, county, and city officials, ATPs also include Tribal governments, special interests, and public representatives (MN DOT, 2017a). Minnesota has eight ATP districts, with Red Lake represented in District 2.

Local Public Health Partnership. The fourth and final category is Local Public Health Partnerships, through the Minnesota Department of Health. The Statewide Health Improvement Partnership (SHIP) coordinators work with programs across the state to implement and promote

active living strategies. Supported through SHIP include 41 county health boards, which covers all 87 counties in Minnesota, plus five cities – Bloomington, Edina, Richfield, Minneapolis, and St. Paul. Additionally, 10 Tribal governments are supported through the SHIP initiative, by providing culturally specific and targeted focus (MN Department of Health, 2017). Red Lake is represented by the North Country Health Alliance (NCHA). NCHA partners with health care systems, communities, worksites, and schools. SHIP and NCHA work with schools to ensure students are surrounded by active environments that also provide healthier food options to improve students' success (NCHA, 2016).

Successful SRTS programs contain strong, supportive partnerships, and are essential in the planning and implementation process. Minnesota has shown to be effective in their implementation of SRTS, and further expanded their partnership in 2009 to include the Fond du Lac Band of Lake Superior Chippewa, which was the first tribal community to receive SRTS funding. And, in January 2016, the Fond du Lac Reservation Business Committee adopted the SRTS program as a long-term development guide (Arrowhead Regional Development Commission, 2016). The following will consider implementing SRTS in tribal communities in Minnesota.

Safe Routes to School and Tribal Communities

As of October 2016, there are a total of 566 federally recognized tribes in the United States (NCSL, 2017). Each Tribe is unique in culture, location, and governance. The following defines critical aspects Tribal entities must consider during planning stages, and potential barriers. After reviewing the key issues and obstacles, the last portion will provide examples of proven strategies to work in tribal communities.

Implementing Safe Routes to School in Tribal Communities

When evaluating the situation for an SRTS program in an urban setting, there are differences in considerations compared to rural programs, and there, even more, aspects that need to be factored in for a tribal SRTS program. Three factors are needing to be addressed for tribal programs, including school governance, road and land jurisdiction, and funding.

School governance. School governance varies in public and private jurisdictions, with charter schools being coupled with public schools. In a tribal setting, there are state funded schools, such as public school, that have significant Indigenous student populations. There are schools run by the Bureau of Indian Education (BIE), which include day schools and boarding schools. Lastly, there are tribe-funded schools, which function as charter schools (National Center for Safe Routes to School, 2015).

Land and road jurisdiction. Land and Road jurisdiction between tribal and non-tribal areas can be challenging because many governments have jurisdiction over roads that crisscross the reservation, and there may be an uncertain situation of interdependence combined with different priorities among the various agencies (Narváez and Quick, 2016). It is important to develop and "maintain strong lines of communication and collaboration efforts" (National Center for Safe Routes to School, 2015) between the various entities involved to avoid frustration. Road and land jurisdiction is a necessary component when planning SRTS programming because "on reservations, some roads may be owned and maintained by the tribe or private entities, but state or county roads may also cross tribal land" (National Center for Safe Routes to School, 2015). Project standards can thus vary depending on who owns and operates the roads and lands.

Funding. The third and final factor that causes consideration is funding. Tribal communities are eligible for the same funding as non-tribal communities through the federal transportation bill, and would go through the same process to apply for funding as well (National Center for Safe Routes to School, 2015). Also, if the Tribal community is federally recognized, that community can apply for SRTS funding "on their own or in collaboration with public school districts, local or regional government agencies, and other eligible applicants" (National Center for Safe Routes to School, 2015). However, federally recognized tribes have additional funding opportunities not accessible to non-tribal entities. There are two sources, the first one being the Tribal Transportation Program Safety Funds, and the second source for programs dedicated to improving health conditions for tribal members (National Center for Safe Routes to School, 2015).

Barriers for SRTS in Tribal Communities

Just like other SRTS programs, tribal projects face barriers as well and are much like those experienced by other rural communities. The barriers discussed here are representative of the rural location of Red Lake, as some tribal communities have suburban characteristics. The barriers, in this case, include a communities rural and remote location, safety concerns regarding loose animals and wildlife, and safety concerns relating to inclement weather.

Rural & Remote Location. Tribal communities can be stretched out over a vast amount of land, and those that are considered remote rural, lack a downtown center. SRTS infrastructure projects are most successful when they incorporate certain essential characteristics to form a favorable built environment. Notable features include "land use, intensity (population density), location relative to other community destinations, the interconnections available to reach those destinations, and aesthetic qualities" (Sallis, Floyd, Rodriguez, & Saelens, 2012). However, in Red Lakes situation, not every school is built in an area that allows for most essential characteristics to be met. Another barrier for rural and remote areas is the increased presence of off-highway vehicles (OHV), which includes all-terrain vehicles, off-highway motorcycles, and other off-road vehicles. In 2013, there was a total of 208,912 individual OHV owners. The metro area made up 23.2% of the total individual OHV owners, while the Northwest and Northeast part of Minnesota made up 38.6% (Kelly, 2014).

Animal-Vehicle Collisions and Dogs. Minnesota is a high-risk state for animal-vehicle collisions, specifically with deer (State Farm, 2016). In rural, remote areas, some property owners do not have a fence surrounding the property, which is a perceived barrier to safety as domesticated animals or livestock can freely wonder the area (National Center for Safe Routes to School, 2015). With regards to wildlife, many remote areas have a more active and present wildlife. Some rural areas have problems with aggressive dogs, with one study finding that "40-50% of rural respondents indicated that unattended dogs were a moderate to the substantial problem in their neighborhoods" (Safe Routes to School National Partnership, 2013). Children have cited feeling unsafe walking in low-light hours, not only because it is getting darker outside, but they cannot always see what wildlife might be near them (Sallis, Floyd, Rodriguez, & Saelens, 2012).

Inclement Weather. Lastly, the environment plays a key role in whether a student can walk or bicycle to and from school, especially during the long winter months in the northern states. When a rural area does not offer pedestrians the safety and accommodation of paved sidewalks or paths, it can be difficult to shovel a path in the instance of snow. If students do not have a shoveled path, it can increase their chances of getting lost. If it is hot outside and students route does not include areas of shade to protect them from the sun and heat (National Center for Safe Routes to School, 2015; Hansen, Meyer, Lendardson, & Hartley, 2015; Lu, et al., 2014).

Taking school governance, road, and land jurisdiction, funding and barriers into consideration provide SRTS planning committees to present communities with useful strategies to ensure program success.

Strategies that work in Tribal Communities

Reflecting on the earlier concerns and barriers, it may seem challenging to envision Safe Routes programming that can work in a tribal setting. However, there have been countless tribal projects that have successfully implemented programs that fit each community's unique situation. The following section will consider the use of remote drop off locations and Walking School Bus programs, the inclusion of SRTS programming into tribal safety plans, and include health and wellness policies into SRTS programming. Each of the following strategies discusses relevant examples and are further expanded upon in Appendix E.

The Walking School Bus and Remote Drop Off Locations. The walking school bus is an encouragement strategy that allows kids to commute to and from school with adult supervision actively and can be an informal or formal design (Appendix C). A formal program would be a "planned route with meeting points, a timetable for pickup times, and trained volunteers or school staff members" (Safe Routes to School National Partnership, 2016f). Using a Bicycle train allows for the Walking School Bus to accommodate children who choose to ride their bike instead of walking.

For students who live outside of the walking/bicycling zone and therefore cannot take part in the Walking School Bus, can have the option for a remote drop-off location. This option allows for students to commute to school actively. A remote drop-off location allows for students to be dropped off at a particular location that is within the walking/bicycling zone and can be

done so by a parent or a school bus driver. From there, the setup is just as it is for the walking school bus, where the students walk to school in a group with adult supervision.

It is worth mentioning that adult supervisors can include staff and faculty, but they can also include bus drivers or community volunteers. In the tribal situation, it could be beneficial to use community elders that can offer youth with cultural teachings. That way, students will be engaging in physical activity, while learning cultural teachings from an elder. Using the Walking School Bus and a remote drop off location gets students active right in the morning, preparing students for learning.

Inclusion of SRTS initiatives in Tribal Safety Plans. Tribal entities use a safety plan to lay out and "identify areas with large transportation safety concerns, develop transportation safety goals, and plan a comprehensive strategy to address the community's needs" (National Center for Safe Routes to School, 2015). Tribal Safety Plans (TSP) should not be developed with the intention of only using one source for funding, as they are meant to demonstrate the safety concerns of the community as a whole (FLH Web Team, 2017). By including the TSP in SRTS planning, shows the community commitment to the project. Other Tribal SRTS programs, such as the one carried out on the Flathead Indian Reservation in Ronan, Montana has successfully implemented transportation safety measures that not only helped with increasing the safety of students but the community as well (Rolfsness, 2009).

SRTS Inclusion of Health and Wellness Policies. Program activities can be "incorporated into the school's health and wellness policy to provide students with daily physical activity" (National Center for Safe Routes to School, 2015). As stated earlier, studies have found that students still perform better if physical activity relating to the subject replaces sedentary learning. Including SRTS initiatives in with the school's health and wellness policies ensures that students are learning while being able to take the time to participate in physical activity. Facilities that are operated under the BIE are required to adopt such local policies regarding health and wellness, to provide students with safe and active commuting routes, and encouraging "grant and contract schools to follow policies and adopt local policies as well" (National Center for Safe Routes to School, 2015).

The Cherokee Nation in Northeast Oklahoma was determined to improve health outcomes for its residents and had received funding through the Center for Disease Control's Communities Putting Prevention to Work Program, which encouraged Cherokees to live healthier lives. The Cherokee Nation partnered with the city of Collinsville, Oklahoma, to expand their scope of their program. And in doing so, helped develop a complete street policy, which allowed residents to increase levels of active transportation, and encouraged children to live healthier lifestyles by encouraging students to walk or bike to school (Neal, 2012).

SRTS Complete Street Plans. Roadways, especially in rural and remote areas, can be built in a way that is accommodating to only one mode of transportation, and that is traveling by a motor vehicle. These roads do not provide infrastructure for pedestrians and bicyclists to safely travel alongside or cross such roads. Implementing a complete street policy and plan allows for improvements in safety infrastructure that is dedicated to pedestrians and bicyclists, and can be addressed with SRTS planning. Not only does a complete street policy help pedestrians, cyclists, and motorists, but it also improves access and safety for those with disabilities as well. Implementing an effective strategy involves working with state and regional agencies, and will develop a plan that will require "planning, design, construction, and maintenance of roadway and transit facilities that include the needs of all transportation users" (SRTS National Partnership, 2017).

The Cherokee Nation project included a complete street policy and work plan. Another example of implementing a complete streets policy is the Fond du Lac Reservation SRTS program. The tribal community worked with the Arrowhead Regional Development Commission (ARDC) to develop a complete streets policy and implementation plan. Fond du Lac went through a comprehensive strategic planning process that incorporated a completed paved trail system and provided accommodations not only for pedestrians and bicyclists, but all transportation users (Arrowhead Regional Development Commission, 2009).

Benefits of Implementing Safe Routes to School

With the four goals of SRTS revolving around improving student safety, it is necessary to point out two benefits of SRTS that are overlooked. The following will first define the concepts of the built environment and active transportation, as they relate to the benefits. Next, the two

benefits will be presented, and include improved educational outcomes and decreased chronic absenteeism

The Built Environment and Active Transportation

The Built Environment is a concept developed within social sciences, and its definition varies to adjust to unique situations. a built environment is any structure formed when land use patterns, design features, and transportation systems were placed together to provide space for physical activity and travel. Structures include those that can be modified by people with the aim of making the environment more accessible to all individuals (Hansen, Meyer, Lendardson, & Hartley, 2015).

Active transportation is the use of any "self-propelled, human-powered mode of transportation such as walking or bicycling" (National Center for Environmental Health, 2011). The primary purpose of promoting active transportation is to improve the health outcomes of children, teenagers, and young adults. Health outcomes studied are chronic health issues, such as obesity, diabetes, and heart disease. Many studies have been conducted on how to improve these chronic health issues among Indigenous people, and increasing the rates in the use of active transportation methods is one approach to improving health issues.

Together, improving both the built environment and accessibility to active transportation methods are encouraged through the implementation of SRTS. Improving the built environment not only provides a safe environment for kids to commute to and from school actively, but it enhances the aesthetics and increases use as well. A report by Sallis, Floyd, Rodriquez, and Saelens, found that built environments that were made more visually pleasing not only increased an individual's perception of their safety, but it also increased their levels of physical activity (Sallis, Floyd, Rodriguez, & Saelens, 2012). Even more importantly, this factor was seen in rural settings as well. Thus, developing the built environment may increase the levels of physical activity among students, which has been found to increase student's educational outcomes and decrease rates of chronic absenteeism.

Improved Educational Outcomes. Since its inception, the SRTS National Partnership has helped increase the amount of research regarding physical activity improving educational attainment, especially among low socioeconomic status and minority students. This field of study

looks at how encouraging the use and then using Active Transportation as a means of increasing academic achievement. Studies outlined in a report by Active Learning Research (2015) have found that academic achievement is improving educational attainment through improved academic performance, enhanced attention and memory capabilities, and improved brain health. Some of these studies have examined academic performance after engaging in physical activity. It seems to indicate that students who participate are "better able to concentrate on classroom tasks, which is known to enhance learning ability" (Active Living Research, 2015). Other studies that have been conducted and have found that the effects are shown after students participate in simple physical activities such as walking, but are not as significant as the effects given from students that engage in aerobic physical activity. It is important to note that resistance exercises, such as push-ups or sit-ups do not have the same effects of light to moderate aerobic physical activity (*ibid*).

Students who cite being unable to stay focused or struggle with retaining what they learn in school benefit from physical activity, as it has shown to increase the students' attention. It is also beneficial for those students that exhibit disruptive behavior. Enhancing a child's attention span and improving memory with just a single session of physical activity is a major factor in determining children's success in their educational attainment, and it is also helpful to improve brain health. Additionally, such improvements are made by increasing the "hippocampal volume and basal ganglia," with both structures being responsible for learning in children (*ibid*).

These findings show how important it is for students to be regularly participating in physical activity that is incorporated inside and outside of their school. Studies have even shown that if physical activities replace sedentary class time that would be used for reading and math curriculum, those students still do better on standardized tests than students that did not participate in any physical activity (*ibis*). It is for these such reasons that SRTS programming that provides for enhancement of the built environment and active transportation relationship, even in rural districts, students can benefit not only from increased levels of physical activity but improved educational outcomes as well.

Decreased Rates of Chronic Absenteeism. Another way for students to progress in their educational attainment is to be present at school daily. Chronic absenteeism is a way for schools to measure how often students are missing school for any reason. Studies show that those

students who are chronically absent do worse in school than those students who are present to school more often. Even more important to note is that if more than one or two students in a classroom are chronically absent, the whole class is affected since the teacher must repeat lessons from the previously missed school days (Attendance Works, 2014). Therefore, chronic absenteeism in not only important to address for the single student's education, but for the class as well.

One of the ways cited to prevent chronic absenteeism is to promote active transportation as a method to reach school, as it gives families a backup plan in case parents become ill or other unexpected situations appears. In rural areas, students who do not live close enough to walk or bicycle to school do not always have this option. Parents and guardians have cited that even when their kids live within limits to use bussing, kids are still driven to school because it is more convenient, as their child is not sitting on a bus for extended periods of time. However, SRTS programs, such as the walking school bus, allow for kids to be on the bus for shorter periods of time. Such programs can also help alleviate morning chaos, especially for parents and guardians with multiple children going to different schools. Improving the built environment and promoting active commuting, even in rural school districts, students can benefit not only from increased levels of physical activity but decreased rates of chronic absenteeism as well.

Summary of SRTS Benefits. Overall, SRTS is beneficial to all students, whether the setting is urban or rural. Enhancing the built environment and increasing rates of active commuting among students is beneficial not only for their physical health but their educational outcomes as well. SRTS programming is developed in such a way that it can be adjusted to fit all situations and settings schools face. In a tribal setting confronted with the additional barriers, SRTS can be just as fruitful and efficient as any other rural community. Red Lake School District is an example where SRTS programming can be adjusted to fit the community's needs as well. The next section of this paper will consider the methods and observations used in assisting the Red Lake tribal transportation department in gathering data regarding the needs of the community in preparing for the submission of an SRTS proposal.

Methods and Observations

Methods

Two trips were planned to conduct visits to the four school sites to meet with stakeholders, and making observations of the drop-off/pick-up process of students. The first trip took place in February and a follow up in March. The first trip was designed so my paper/project supervisor and I could get a better understanding of the drop-off/pick-up process. The second trip is where I had made the student counts and talked with the Ponemah Elementary School Principal about the Ponemah school setting. To obtain counts, I used a hand tally counter, and when that process was finished, counts were noted on paper. Dr. Guillermo Narváez and I divided the counts for Red Lake Elementary School and the morning counts of Ponemah Elementary School. Dr. Guillermo Narváez was gracious enough to take counts at the Early Childhood Center while I finished counts at Ponemah and St. Mary's Mission School. We then compared notes to ensure the accuracy of our counts. The following will break down the observations at each site.

Observations

Red Lake Elementary and Early Childhood Education Center

Site Layout. Looking at Figure 1 below, the Red Lake Elementary (RLE) school parking lot entrance and exit are located at point C. Point B is the school parking lot, and point A is the building entrance. Point D is the area in which students who attend either Bemidji School District or Clearbrook schools are picked up and dropped off. Point E is the entrance to the Red Lake Early Childhood Education Center (ECC), and F is the parking lot. The last point on the image is point G, which is the entrance and exit to the ECC.

To enter the RLE parking lot, cars follow the arrows in the C entrance. In the morning, cars will pass arrow 2 and follow arrow 3, while others will turn at arrow 2. In the afternoons, cars will pick follow the path of arrow 2, since the buses are parked in front of the school diagonally, blocking thru traffic. When exiting, cars will follow arrow 4 and 5. To enter the ECC, vehicles will enter at arrow 6 at point G, and follow arrow 7 to arrow 8, located at the exit G.

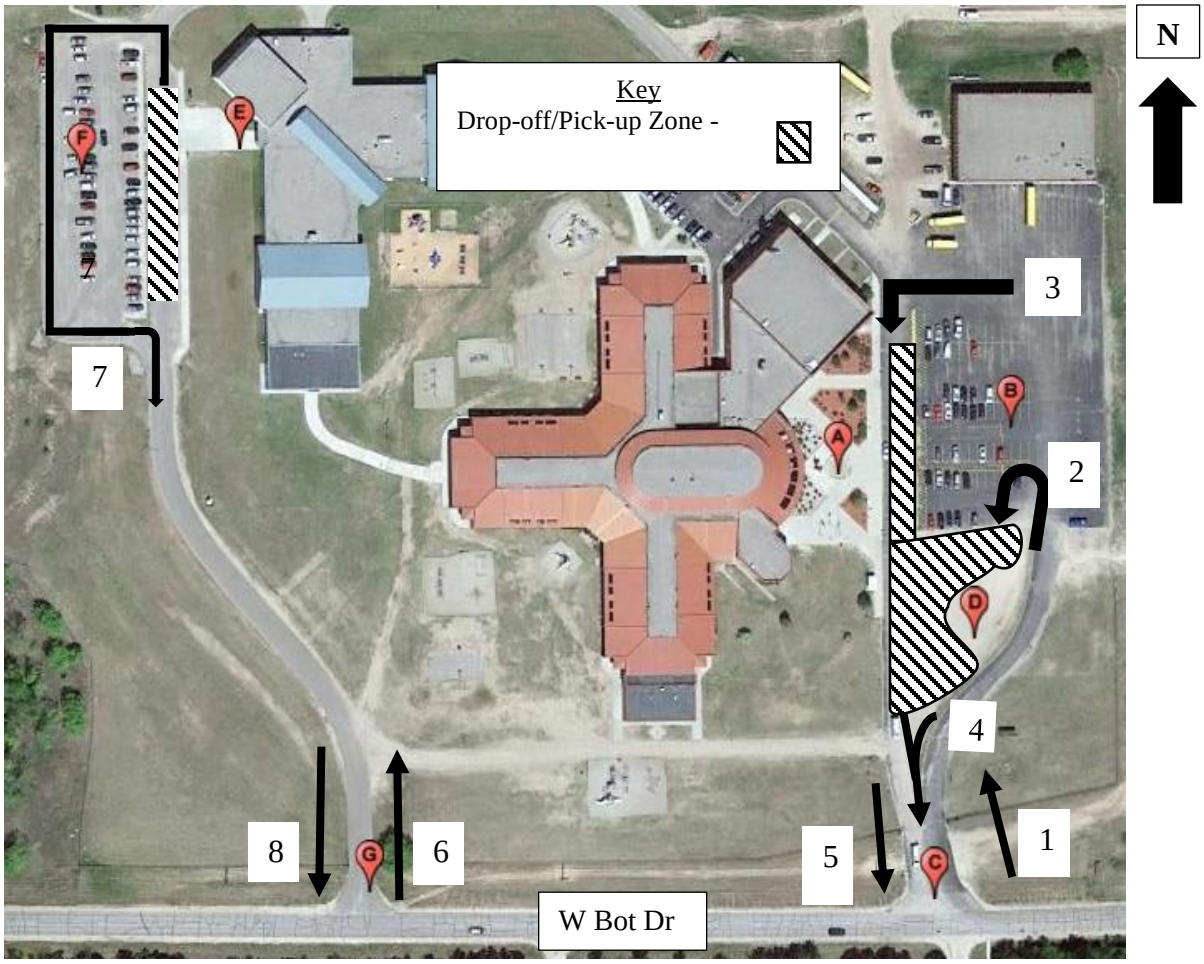

Figure 1: Current Traffic Flow at Red Lake Elementary and Early Childhood Center
Source: Google Earth

***Morning RLE Counts*.** The first morning, I arrived on site to the RLE at roughly 6:45, and there were already seven students on three of the four buses waiting for departure to Bemidji and Clearbrook. In total, there were 110 students, with 77 individual vehicles dropping students off. The first of those four buses left at 7:08 AM, with the other three leaving at 7:20 AM. The next set of traffic that occurred were RLE staff arriving to work, which began at 7:20 AM.

The elementary school opens its doors to students beginning at 7:30 AM and the first school bus unloaded in front of the school entrance at 7:31 AM. There was a total of 14 buses, with the last bus to unload students arriving at 8:22 AM. The last student that I had observed was dropped off at about 8:35 AM. However, as I left the parking lot, I noticed additional vehicles bringing students into school, but were not included in my count total. In total, 285 students rode the bus to school and 38 students that were brought to school by a parent or guardian, with 32 vehicles.

Afternoon RLE Counts. The pick-up process began with students needing transportation services to accommodate disabilities had been loaded onto one of the three designated buses and the bus left before the designated release time. All other 11 buses were diagonally parked at the curbside by 3:00 PM and students began to load by 3:04 PM. It is important to note that the buses would first load students from the ECC on the opposite side of the campus, and as they park on the elementary school side, they do so in a diagonal fashion as to not allow cars to pick students up from the curb. Counts were made as students left the building initially, with 325 students total, and 47 students being picked up by an adult.

Morning and Afternoon ECC Counts. In the morning, there was a total of 29 events, with 20 vehicles and nine buses. There were 129 students, with 22 being dropped off by a parent or guardian in a vehicle, and 107 students riding a bus. In the afternoon, there were 27 events, with 18 vehicles and nine buses. 18 students were picked up by a parent or guardian, and 103 students rode the bus. Once the buses were loaded, they drove around to the elementary side to pick up those students. The first bus was carrying four students, the second bus had two students, the third bus had 27 students, the fourth bus had 15, the fifth had 11, sixth had seven, the seventh and eighth bus had 12 students, and the last bus had 13 students. There was a total of 103 students, with a total of 121 students being picked up from school.

Summary of Fieldwork. On both days of observation, there were roughly five dogs present and wondering around the parking lot both while students were present and when they were not. A second observation was that of the four buses that bring students to Bemidji and Clearbrook, only three had arrived, with the fourth one not arriving until roughly 6:50 am. While standing there making observations, and being a cold winter month, I noticed that there are no shelters to keep students warm as they wait for their bus to arrive. A third observation is regarding the flow of the pick-up and drop-off area. While speaking with the tribal transportation engineer, a word used to describe the situation that stuck out the most was “chaotic.” There were times where cars were going in opposite directions trying to leave the parking lot, making the area seem chaotic for the students to reach the school entrance. In the afternoon, the area appeared to be a bit less chaotic, as the buses lined up in a fashion that did not allow other vehicles to pick up students from the school curbside.

For ECC, the drop-off/pick-up area was orderly, both in the morning and afternoon. The only concern was that many cars were coming into the drop-off/pick-up zone significantly faster than the posted speed.

Ponemah Elementary School

Site Layout. Looking at the image below, point A is the entrance to the school building and is also represented by arrow one. B is the entry and exit to the parking lot and point C is the traffic circle. Arrow two is the intended access to the traffic circle, while arrow three is the predetermined direction of traffic. The last arrow is 4, which is the expected exit from the traffic circle.

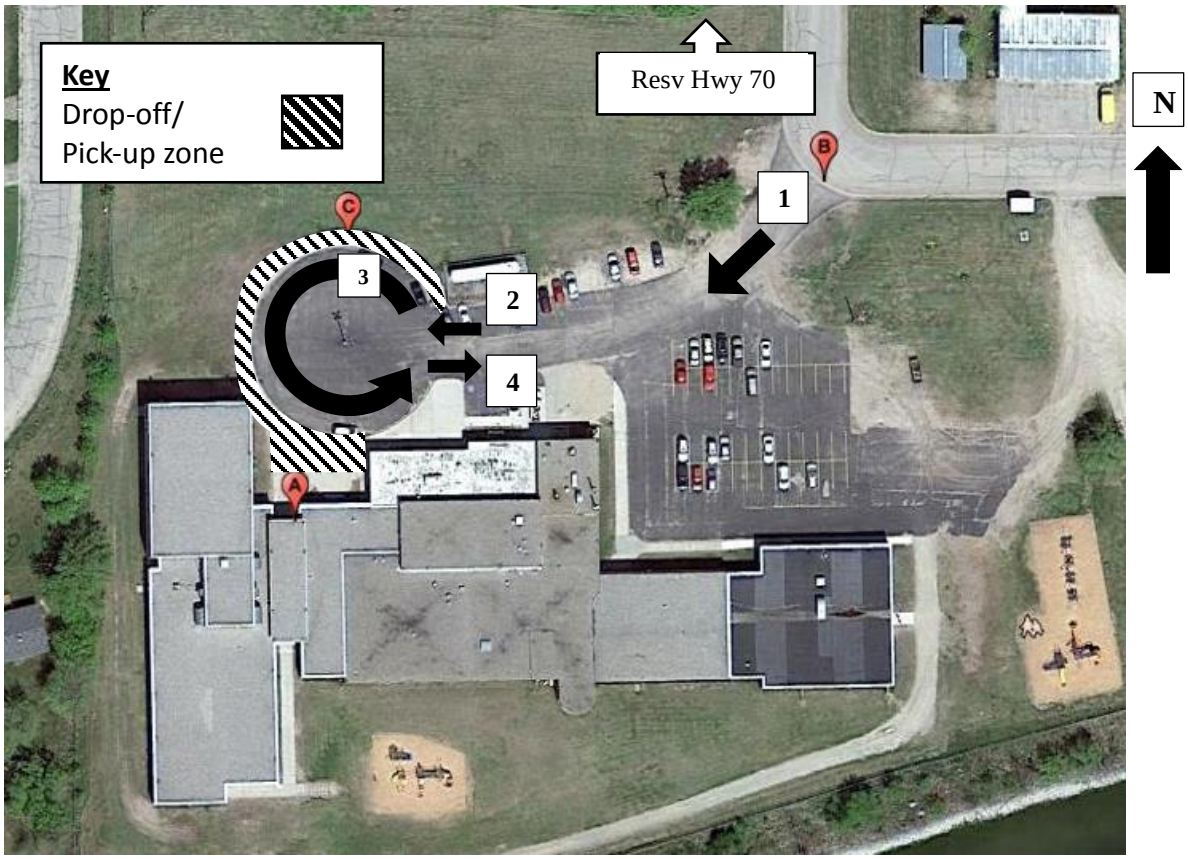

Figure 2: Current Traffic Flow for the Ponemah Elementary School
Source: Google Earth

Morning Counts. There were 27 vehicles, with a total of 37 adults and 62 students dropped off in the morning. There are four total buses, with one that provides transportation to the head start program located off campus. The first bus arrived at 8:53 and was carrying 25 students, the second arrived at 9:00 and was carrying 27 students, and the third bus arrived at

9:29, carrying 36 students. The head start bus arrived around 9:00, and two students exited the bus. There was a total of 90 students that rode the bus to school, with three students walking to school. The total morning count was 145 students.

Afternoon Counts. The buses started arriving at 2:47 and were loaded by 3:18. There was a total of 101 students that rode the bus, with 13 students being picked up by a parent or guardian. There were nine vehicles and 12 adults. There were roughly 37 students that were walking, with most of the students walking after school. There was a total of 151 students at the end of the day.

Summary of Fieldwork. An overwhelming majority of the vehicles dropping students off followed the direction of the traffic circle and dropped students off on the curb located in front of the building entrance. Buses also followed the same directions. However, there were a few cars that came in from the opposite direction of most vehicles or parked in the middle of the circle, where adults from the center escorted students. After school, two cars were parked in the middle of the circle, with one on each side of the light pole that is in the middle of the circle. However, both adhered to the roundabout process when arriving and leaving, making the area as safe for the students as it was beforehand. The busses lined up on the curb closest to the school and cars pulled in behind them and waited as well. Cars that dropped students off that were not on the curb got out of the car and walked the students, and both those that parked on the curb or the side opposite of the school side roundabout all waited to ensure that students made it into the school safely.

In the morning, I talked with the school principal about the SRTS project and asked if he had any suggestions. He said that the students, as is, are safe on campus. He was more worried about students that had to cross the busy highway (Reservation Highway 18). When I left that afternoon, I was behind a school bus and saw what the principal meant by the safety of the students crossing the road. I only observed five drop-offs, but three out of the five had a car waiting for them to pick them up. The other two drop-offs were direct to homes and driveways were short enough that guardians could view from the window if students made it off the bus safely. All vehicles adhered to the stop sign and crossing guard attached to the bus. The Principal said that there had not been many accidents on those roads, but on the roads where the speed limit is 30 miles per hour many drive much faster and pose a risk to pedestrians. In that regard,

there are no visible crosswalks present. Otherwise, the principal said that he feels as if his students are safe, and that their drop-off and pick-up system is far more efficient than the RLE system, and that more focus should be placed on that site.

Red Lake Secondary Complex

Site Layout. The image below is the Red Lake Secondary Complex (RLSC). Point A is the entrance to the high school section of the building, and point B is the entry to the middle school section of the building. Point C is the parking lot, and point D is its entry and exit. As for picking up and dropping students off, cars enter from arrow 1. Cars can either follow arrows 2 or 3. However, buses continue to follow arrow 3. Arrow 4 is the exit of the drop-off and pick-up zone. The two arrows that are labeled 5 are the entrance and exit to the parking lot, located at point D.

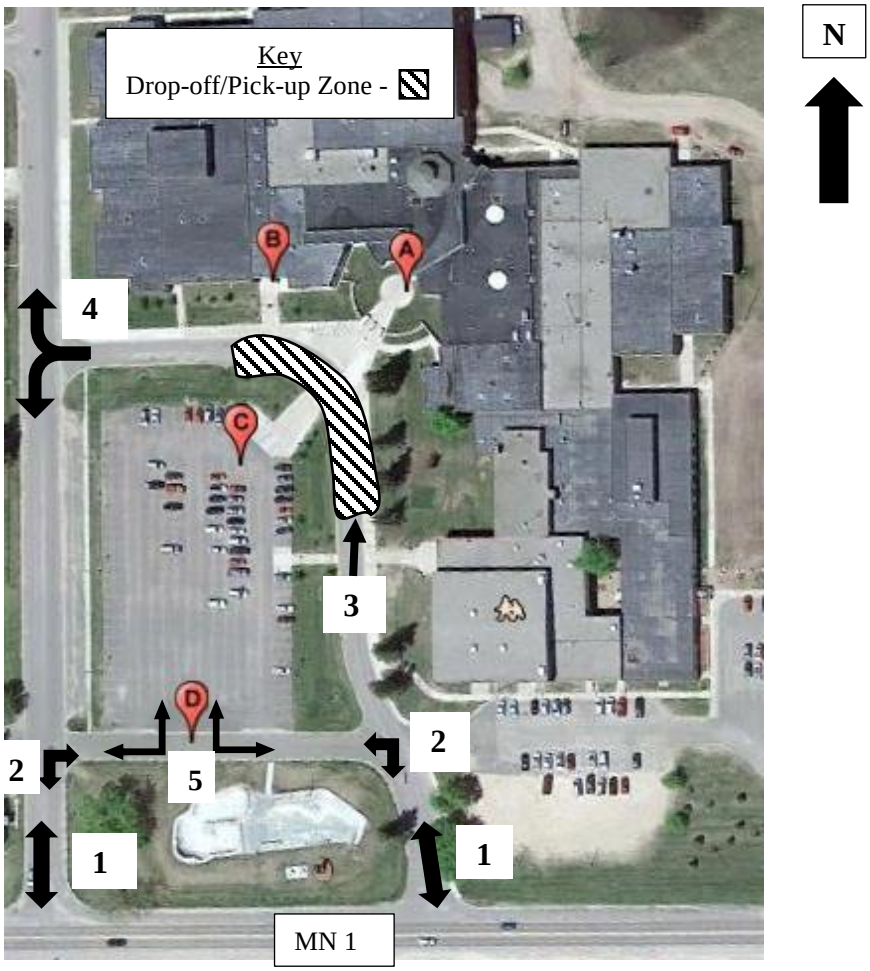

Figure 3: Current Traffic Flow for the Red Lake Secondary Complex
Source: Google Earth

Morning and Afternoon Counts. There were 101 vehicles from the time I arrived with 105 adults dropping off 144 students. Buses began arriving before I had arrived at 7:40. There was a total of eight buses with a total of 106 students. Nine students appeared to have walked to school. There was a total count of 259 students. Regarding the count in the afternoon, the way that students are let out did not allow for an accurate count of students, but I did observe that many of the students walked or were picked up from school by a parent or guardian.

Summary of Fieldwork. The way that the parking lot and drop-off/pick-up area is set up allows for the event to be smooth. I noticed that much of the students were being dropped off on the right side of the road, or the curb closest to the school entrance. There were a few students that were either dropped off in the parking lot or had walked to school, cutting through the parking lot. Most the students that walked, as I observed, came from the west side of the school. When students were dropped off in the parking lot, each made sure that it was safe to cross before doing so, and vehicles waited for the students to pass before driving off.

St. Mary's Mission School

Site Layout. Looking at the map below, point A marks the school's entrance to the school building, and point C is where staff park. Point B is the entry to the church and school from MN-1. Vehicles follow the direction of the arrows beginning at 1 and then 2. The path from arrows 1 and 2 is a two-way road, while the route from arrow 3 and 4 is a one way, followed in a clockwise direction.

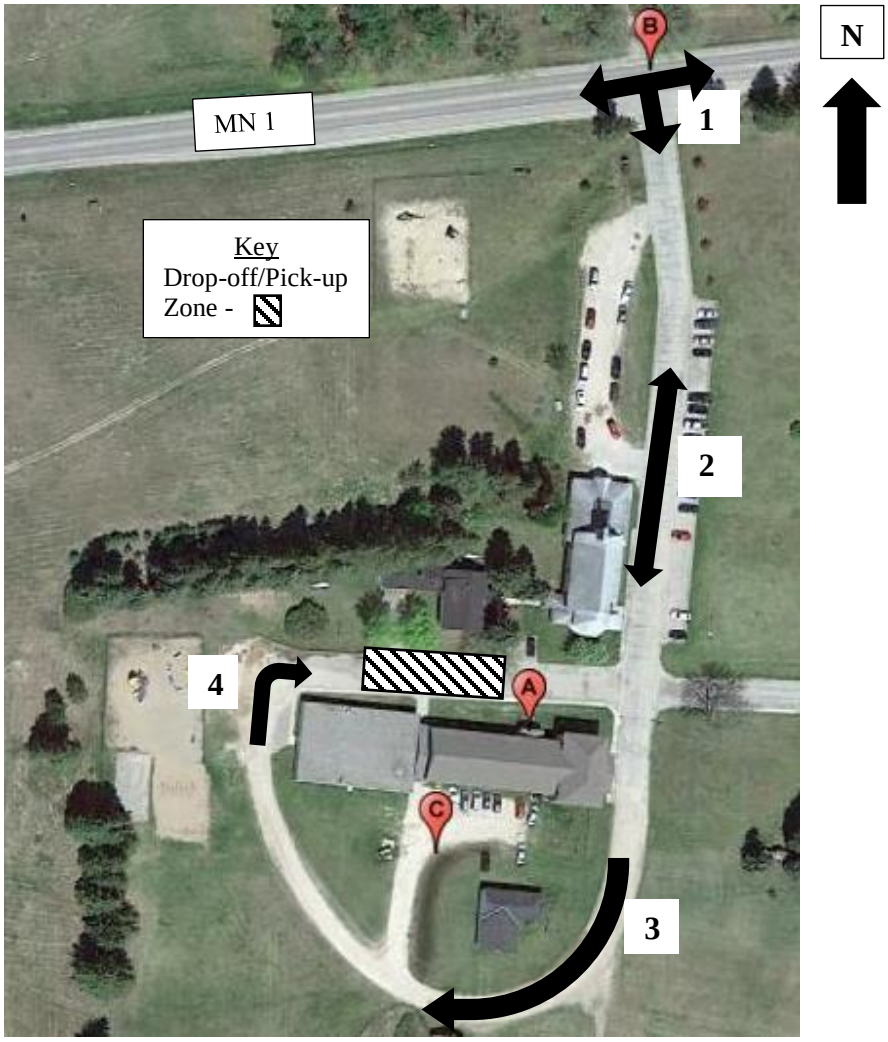

Figure 4: Current Traffic Flow for St. Mary's Mission School
Source: Google Earth

Summary of Field Work. Observations of St. Mary's Mission School were only conducted in the morning, and counts were not taken. However, the school has a smaller attendance compared to the other schools in the community. Most students were dropped off by a parent or guardian, with less than ten students being dropped off by bus. The process was calm, with only one instance that kids were being dropped off at the same time as one another. The only observable concern was that most parents would come in from behind the school and drop kids off on the curb leading to the front door, while a handful of kids were dropped off on the opposite side and either walking with an adult across to the front door or walked themselves. The

concern is that, when there is more than one car, with one coming from behind the school and the other coming in front of the school, there is a blind turn.

Recommendations

This section provides recommendations for RLE and ECC, Ponemah Elementary, and St. Mary's Mission School. There are no infrastructure change recommendations for the secondary complex as it seems that there would be no significant benefits. Still the Secondary complex can improve pedestrian safety through education and encouragement strategies. Appendix C provides a list of program activities for education and encouragement strategies, while Appendix B provides more information on the recommended infrastructure projects and additional options as well.

Red Lake Elementary School and Early Childhood Center Recommendations

The observed inefficiencies in the RLE parking lot could be resolved through traffic calming measures to reduce potential conflict between pedestrians and vehicles. Traffic calming measures in the parking lot include raised pedestrian crosswalks, while measures located outside of the parking lot including the addition of off-site drop-off and pick-up location for students traveling to Bemidji and Clearbrook for school, and add a bypass lane in front of the school. Reducing conflict between pedestrians and motor vehicles would include adding a drop-off and pick-up only traffic circle. Each recommendation will be further expanded upon below.

Recommendation #1: Raised Pedestrian Crosswalks

Figure 5 shows an example of a raised crosswalk in a school drop-off and pick-up zone. This approach allows for pedestrians to be more visible to motor vehicles, as it would stretch across the road width in front of RLE. It is traffic calming as it reduces the speed of drivers, and improves accessibility since the crosswalk will be at the same grade as the sidewalk. Raised crosswalks are effective in reducing speeds of motor vehicles and reducing yield rates by 45 percent (Safe Routes to School National Partnership, 2016d). The significant drawbacks to this approach are that it acts as a speed bump, which can be difficult to plow in the winter months, and upkeep is needed more often due to plowing.

Figure 5: Example of a Raised Crosswalk
Source: http://www.saferoutesinfo.org/program-tools/how-can-you-slow-down-traffic

Recommendation #2: Off-site Drop-off/Pick-up Location

Figure 6 shows an example of the RLE layout with the addition of an off-site drop-off location for Bemidji and Clearbrook students. Remote locations reduce congestion in the parking lot by removing additional traffic to a remote location, which is one of the main benefits of an off-site drop-off zone. An added benefit is it speeds up and provides order in the process, making it an efficient approach. Additionally, I would recommend that RLE provides a weather shelter for the Bemidji and Clearbrook students at the off-site location. The shelter would allow students who are dropped off before the buses get there to have protection from the harsh Red Lake winters. However, a drawback to consider in adding a weather shelter is a lack of visibility that could encourage graffiti and other forms of vandalism (this is based on the current state of Red Lake Transit bus shelters).

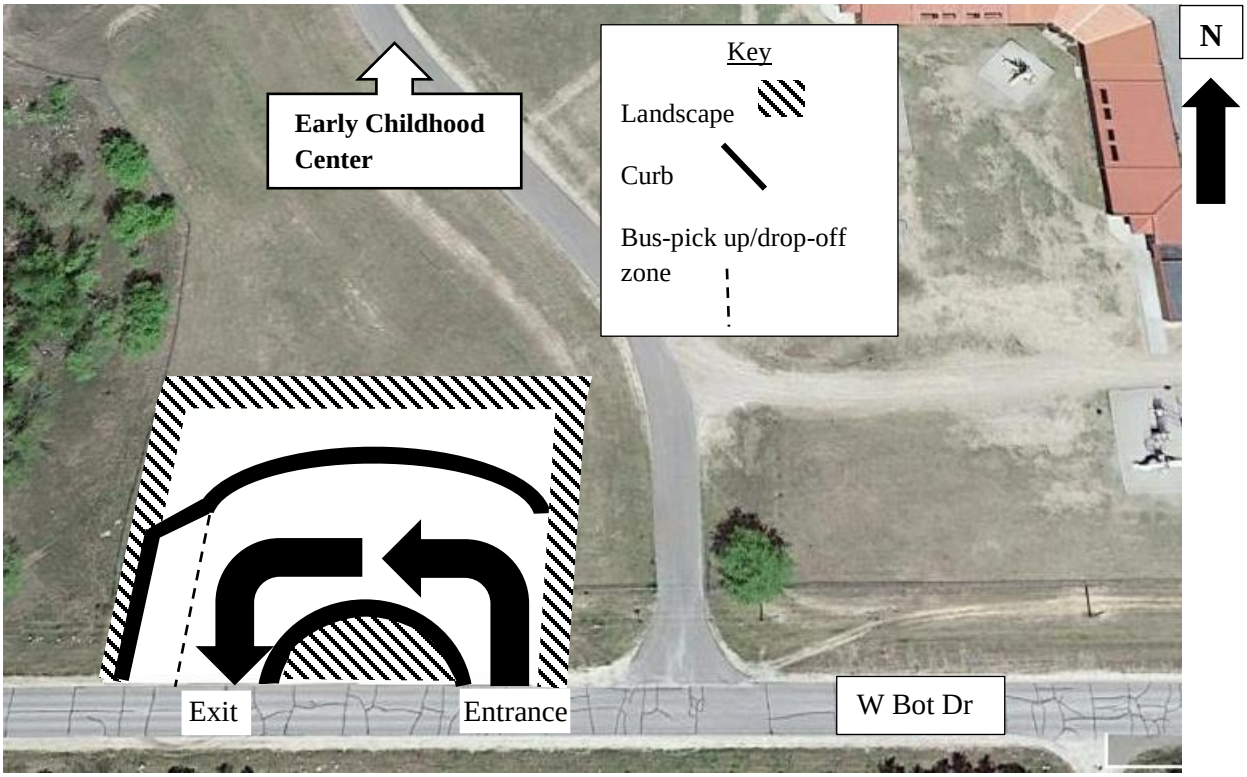

Figure 6: Recommended configuration for an off-site drop-off/pick-up location at RLE/ECC to reduce pedestrian/vehicle congestion
Source: Google Earth

Recommendation #3: Bypass Lane

As you can see in figure 7 below, Red Lake already has implemented a bypass lane on MN-1 going west so vehicles can avoid those turning left onto MN-89. The turn lane is represented by arrow 1, and where vehicles bypass can be seen by following arrow 2. The same concept can be added to the front of the elementary and early childhood center. Congestion on the roadways leading up to the campus entrance provides and environment for unsafe and preventable accidents. Adding a bypass lane improves the flow of traffic and reduces conflict between non-school traffic and school traffic. Reducing this interaction is one of the major benefits for this recommendation. However, a drawback would be constructing the lane on land that potentially is not owned by the school district.

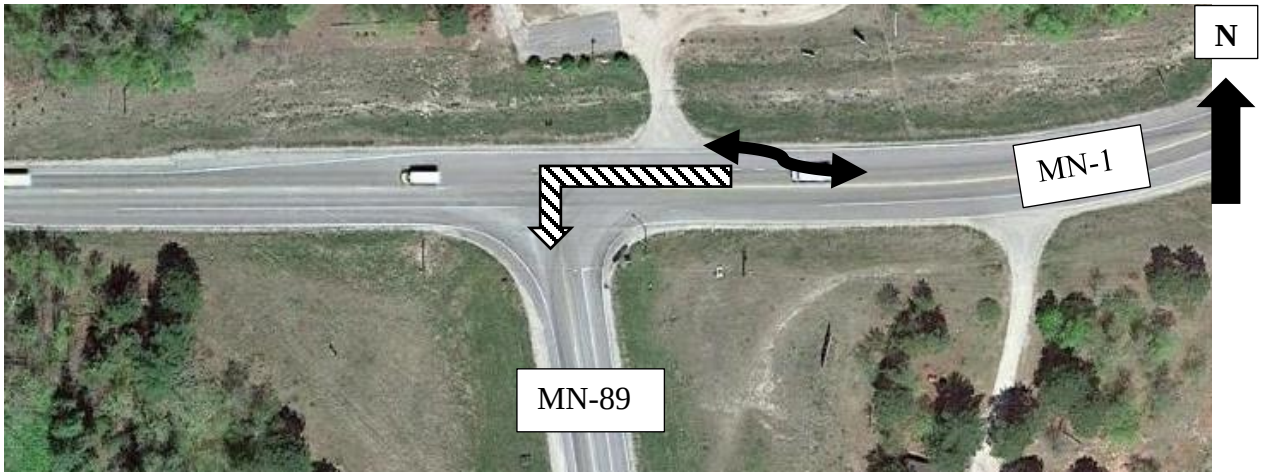

Figure 7: Example of a bypass lane for use in front of RLE
Source: Google Earth

Recommendation #4: Traffic Circle

As shown in Figure 8, the addition of a traffic circle in the school parking lot separates drop-off/pick-up traffic from buses and vehicles parking in the lot. This approach is highly recommended. Traffic circles are effective in lowering speeds and creating safer environments, especially in school zones (USDOT FHWA, 2017). Also, separating the parking lot as shown below allows the students to avoid crossing the road between the parking lot and drop-off zone since the sidewalk can be connected to the drop-off area. Adding landscape, which is represented with diagonal stripes, acts as a disincentive for people wanting to avoid the traffic circle. Another added feature would include one-way lanes. Lane 1 would allow cars to take a slight left to enter the parking lot, and exit on the left out of lane 2. Lane 3 would serve as the entrance to the traffic circle, and lane 4 would be used as the exit.

However, there are drawbacks to this recommendation. There is nothing in place to prevent vehicles dropping students off to enter through lane 1 and exit through lane 2. The only potential is making the sidewalk from the traffic circle to extend back far enough to make dropping students off in the circle the shortest distance. Another drawback is that making the center circle too big could incentivize students to unload there and then walk across the traffic circle.

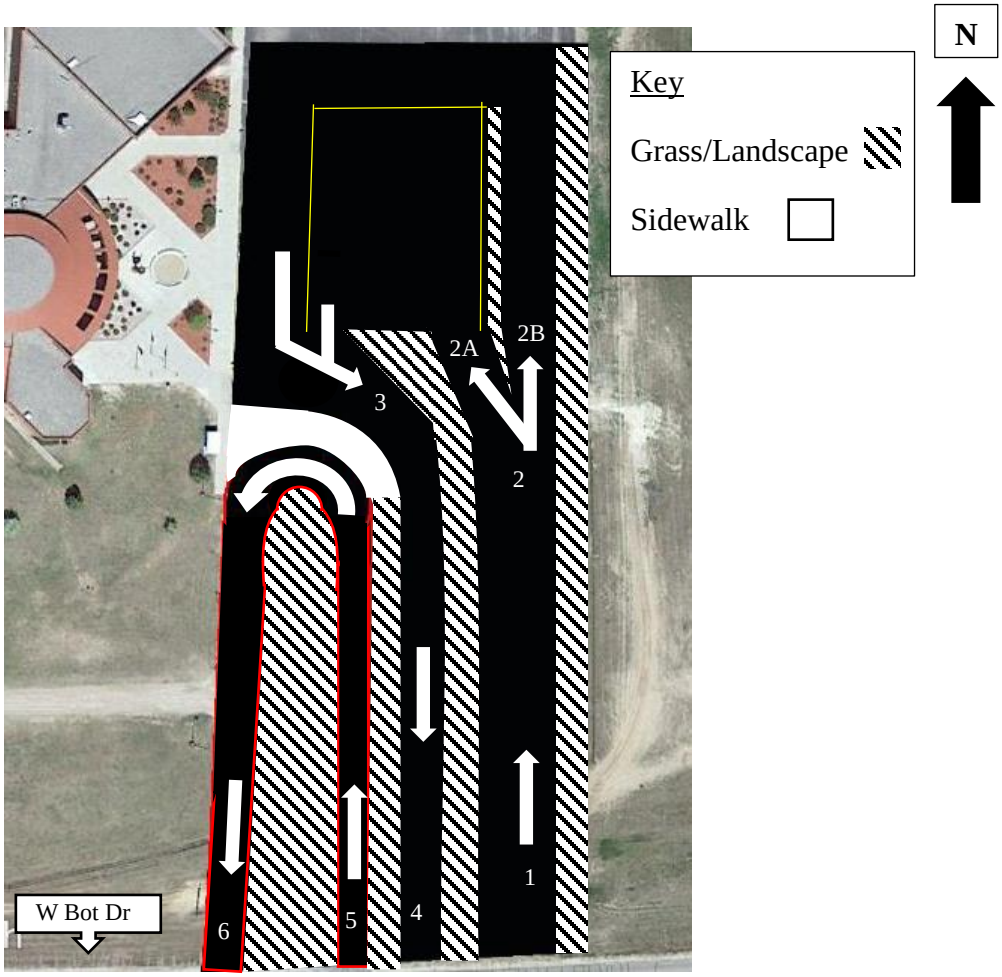

Figure 8: Recommended configuration for a traffic circle at RLE to break up vehicle/pedestrian congestion
Source: Google Earth

Ponemah Elementary School Recommendations

Looking at the summary of fieldwork, and considering the drop-off and pick-up routine with Ponemah Elementary School, there is only one infrastructure recommendation, which addresses the flow of traffic in the traffic circle. I would recommend that PES add a middle island to the traffic circle, but designed in a way that does not encourage pedestrian use.

Recommendation #5: Increasing the Middle Island

While observing the drop-off and pick-up routine at PES, I noticed few instances where cars would turn around within the traffic circle instead of following the flow of traffic. Thus, the recommendation to slightly increase the size of the middle island. The island should be big enough that it will deter drivers from traveling in the opposite traffic flow direction, yet small

enough to prevent students from being dropped off in the center, forcing them to cross the traffic circle.

St. Mary's Mission School Recommendations

From my observations, St. Mary's Mission School experiences light traffic and therefore does not to need to have major traffic calming measures. However, I would recommend adding a traffic calming measure that benefits both SMMS and RLE.

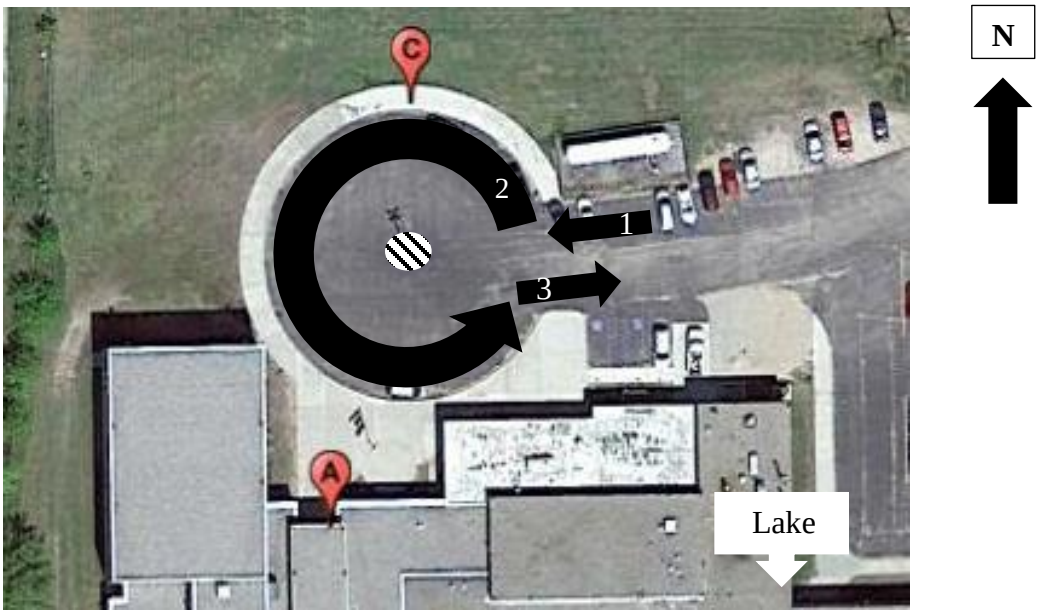

Figure 9: Recommendation to increase middle island
Source: Google Earth

Recommendation #6: Remote Drop-off Location

It was observed that students who attend SMMS rode the same bus as RLE students. Figure 9 shows how to reduce the length between the two schools that buses are traveling by adding a remote drop-off location between the two school. The remote drop-off location allows students who live outside the walking distance to school to increase opportunities for physical activity in their daily schedule. As you can see in figure 9, the location runs the course of a dirt path already present between the two schools. Adding a remote drop-off area would allow students outside of the walking/bicycling zone to take advantage of the benefits associated with increased physical activity. However, a major drawback to this recommendation is that no matter where sidewalks are placed on either site, students are forced to cross roads, and would require adding crosswalk marking and signage to ensure drivers in the areas are aware of students.

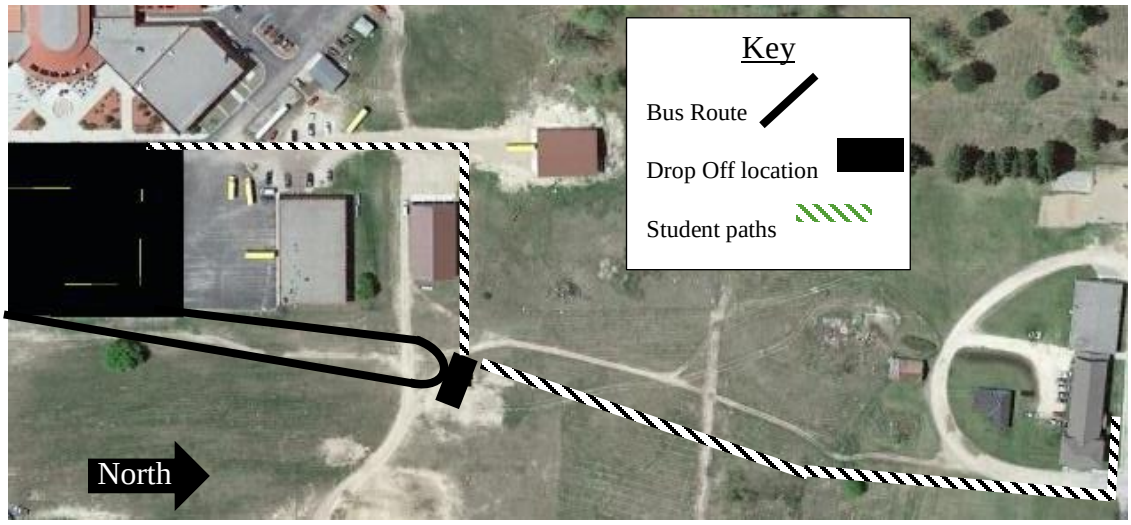

Figure 10: Remote Drop off Location
Source: Google Earth

Conclusion

As can be seen, Safe Routes to School is an important aspect of improving the health and well-being of a community's school-aged population. The previous recommendations may seem daunting, but investing in student's futures is necessary for the Red Lake School District to achieve its mission to provide all students with tools and life skills to help them reach their full potential.

And it may seem more daunting to overcome the barriers faced by tribal communities trying to plan and implement SRTS programming. However, there are a number of available resources, including from other tribal SRTS programs, on how to overcome such barriers. It is especially important to keep in mind that the National Safe Routes to School Partnership strives to serve all communities in urban, suburban, and rural communities and that the Minnesota SRTS program is fully supported and provides programs with resources and support to ensure each program is successful.

Given these points as shown above and throughout this paper, the Red Lake School District and Tribal Engineering Division cannot only provide the community with accessible options for physical activities for the youth, but they can now articulate the needs of the community to prepare and submit an SRTS funding request.

References

Active Living Research. (2015). *Active Education: Growing Evidence on Physical Activity and Academic Performance.* Active Living Research.

Arrowhead Regional Development Commission. (2009). *Fond du Lac Reservation Completes Safe Routes to School Plan.* National Center for Safe Routes to School.

Arrowhead Regional Development Commission. (2016). *Fond du Lac Ojibwe School - Safe Routes to School Plan Update.* Cloquet: ARDC.

Attendance Works. (2014). *What is Chronic Absence?* Attendance Works.

BikeMN. (2017). *Curriculum Summary Document.* Retrieved from BikeMN: http://www.bikemn.org/education/walk-bike-fun/srts-education-curriculum

FLH Web Team. (2017). *Tribal Transportation Program: Tribal Safety Plan*. Retrieved from Office of Federal Lands Highway: https://flh.fhwa.dot.gov/programs/ttp/safety/plans.htm

Google Earth. (2016). Red Lake Elementary and Early Childhood Center. Red Lake, Minnesota.

Google Earth. (2016a). Ponemah Elementary School. Ponemah, Minnesota.

Google Earth. (2016b). Red Lake Secondary Complex. Red Lake, Minnesota.

Google Earth. (2016c). St. Marys Mission School. Red Lake, Minnesota.

Hansen, A. Y., Meyer, M. U., Lendardson, J. D., & Hartley, D. (2015). Built Environments and Active Living in Rural and Remote Areas: A Review of the Literature. *Economy and Environment*, 484-493.

Indian Affairs Council. (2017, Apil 27). *Tribes: Red Lake Nation - Unique in Indian Country*. Retrieved from Indian Affairs Council - State of Minnesota: https://mn.gov/indianaffairs/tribes_redlake.html

Kelly, T. (2014). *Observations on Minnesota Off-highway Vehicle Trends Using Registration Information from 1995-2013.* St. Paul: DNR.

Lu, W., McKyer, E. J., Lee, C., Goodson, P., Ory, M. G., & Wang, S. (2014). Perceived Barriers to Children's Active Commuting to School: A Systematic Review of Empirical, Methodological, and Theoretical Evidence. *International Journal of Behavioral Nutrition and Physical Activity*, 1-20.

Minnesota Department of Transporation. (2014). *Engaging Stakeholders in the Safe Routes to School Planning Process: A Guide for Minnesota SRTS Partners.* Minneapolis: Community Design Group.

MN Department of Health. (2017). *SHIP Quick Facts.* Retrieved from MN Department of Health - Statewide Health Improvement Plan: http://www.dot.state.mn.us/planning/program/mpordcatp.html

MN DOT. (2017). *Planning and Programming*. Retrieved from Minnesota Department of Transportation: http://www.dot.state.mn.us/planning/program/mpordcatp.html

MN DOT. (2017a). *Transportation Planning Partners*. Retrieved from MN DOT Planning and Programming: http://www.dot.state.mn.us/planning/program/mpordcatp.html

MnSRTS. (2017). *Partner Programs*. Retrieved from MnSRTS Resource Center: http://www.dot.state.mn.us/mnsaferoutes/contact/partner_programs.html

MnSRTS. (2017a). *Network Calls*. Retrieved from MnSRTS Resource Center: http://www.dot.state.mn.us/mnsaferoutes/news/network_calls.html

Narváez, Guillermo, and Kathryn S. Quick. "New Methods for Identifying Roadway Safety Priorities in American Indian Reservations." In *Transportation Research Board 95th Annual Meeting*, no. 16-5737. 2016.

National Center for Environmental Health. (2011). *Transportation Health Impact Assessment Toolkit*. Retrieved from CDC Healthy Places: https://www.cdc.gov/healthyplaces/transportation/promote_strategy.htm

National Center for Safe Routes to School. (2015). *Walking and Biking in Indian Country.* Retrieved from National Center for Safe Routes to School: http://saferoutesinfo.org/sites/default/files/SRTS_brief_tribal.pdf

National Center for Safe Routes to School. (2017). *History of SRTS*. Retrieved from Safe Routes to School: National Center for Safe Routes to School: http://www.saferoutesinfo.org/about-us/history-srts

National Conference of State Legislatures. (2017). *Federal and State Recognized Tribes.* Retrieved from http://www.ncsl.org/research/state-tribal-institute/list-of-federal-and-state-recognized-tribes.aspx#federal

National Safe Routes to School Partnership. (2017a). *Mission and Vision*. Retrieved from Safe Routes to School National Partnership: http://www.saferoutespartnership.org/about/mission

NCHA. (2016). *North Country Health Alliance - Building Healthier Communities Together: 2016 Annual Report.* Bagley: NCHA.

Neal, R. (2012). *Cherokee Nation: Partnerships for Active Transportation.* Washington, D.C.: U.S. Department of Transportation, Federal Highway Administration.

Reiss, M. L. (1975). *School Trip Safety and Urban Play areas.* Department of Transportation.

Rolfsness, J. (2009). *Safe Routes to School in Action: Ronan, Montana.* Ronan: Safe Routes to School National Partnership.

Runge, C., & Shaw, J. (2011). *Wisconsin Roundabouts Calm Traffic, Improve School Zone Safety.* Green Bay: USDOT FHWA.

Safe Routes to School National Partnership. (2013). *Rural Communities: Best Practices and Promising Approaches for Safe Routes.* Safe Routes Partnership.

Safe Routes to School National Partnership. (2016). *Education.* Retrieved from Safe Routes to School Guide: http://guide.saferoutesinfo.org/education/index.cfm

Safe Routes to School National Partnership. (2016a). *Encouragement.* Retrieved from Safe Routes to School Guide: http://guide.saferoutesinfo.org/encouragement/index.cfm

Safe Routes to School National Partnership. (2016b). *Enforcement.* Retrieved from Safe Routes to School Guide: http://guide.saferoutesinfo.org/enforcement/index.cfm

Safe Routes to School National Partnership. (2016c). *Engineering.* Retrieved from Safe Routes to School Guide: http://guide.saferoutesinfo.org/engineering/index.cfm

Safe Routes to School National Partnership. (2016d). *Raised Pedestrian Crosswalks*. Retrieved May 16, 2017

Safe Routes to School National Partnership. (2016e). *The Law Enforcement Approach.* Retrieved from Safe Routes to School National Partnership Guide: http://guide.saferoutesinfo.org/enforcement/the_law_enforcement_approach.cfm

Safe Routes to School National Partnership. (2016f). *The Walking School Bus: Combining Safety, Fun and the Walk to School.* Retrieved from Safe Routes to School Guide: http://guide.saferoutesinfo.org/walking_school_bus/index.cfm

Safe Routes to School National Partnership. (2017). *Quick Facts and Stats.* Retrieved from Safe Routes to School National Partnership: Healthy Communities: http://www.saferoutespartnership.org/healthy-communities/101/facts

Sallis, J. F., Floyd, M. F., Rodriguez, D. A., & Saelens, B. E. (2012). *The Role of Built Environments in Physical Activity, Obesity, and Cardiovascular Disease.* Dallas: American Heart Association.

Sherwood, D., & Bradshaw, C. (1998). *Fitting Places: How the Built Environment Affects Active Living and Active Transportation.* Ottawa: Go For Green.

Smallwood, D., Osberg, J. S., Argan, D., Frank, T., Hubsmith, D., Ping, R., . . . Moeti, R. (2008). *Safe Routes to School: A Transportation Legacy - A National Strategy to Increase Safety and Physical Activity among American Youth.* Washington D.C.: United States Department of Transportation.

SRTS National Partnership. (2017, May 2). *Complete Streets: Making Roads Safe for All Users.* Retrieved from Safe Routes to School National Partnership: http://www.saferoutespartnership.org/state/bestpractices/completestreets

State Farm. (2016, September 19). *Look Out! Deer Damage can be Costly!* Retrieved from Statefarm Simple Insights: https://newsroom.statefarm.com/state-farm-releases-2016-deer-collision-data#jISjfuAwVExw3MYm.97

The National Center for Safe Routes to School. (2011). *How Children Get to School: School Travel Patterns from 1969 to 2009.* Retrieved from National Center for Safe Routes to School: http://saferoutesinfo.org/sites/default/files/resources/NHTS_school_travel_report_2011_0.pdf

Trentacoste, M. F. (2004). *A Review of Pedestrian Safety Research in the United States and Abroad.* McLean, VA: Research, Development, and Technology: Turner-Fairbank Highway Research Center.

USDOT FHWA. (2017, February 1). *Roundabouts and Mini Roundabouts*. Retrieved from FWHA Intersection Safety: https://safety.fhwa.dot.gov/intersection/innovative/roundabouts/

Appendix A: Stakeholder Analysis Power/Interest Matrix

This matrix will be helpful during the planning stage to ensure that all relevant stakeholders are being engaged and at the necessary steps during the process.

Stakeholder	What they bring to SRTS	What they gain from SRTS
Superintendent	• Encourages district-wide support for programming • Understands how to integrate SRTS with long-range goals for the district • Knowledge about infrastructure projects and transportation systems	• Increased safety & health for students • Well-rounded transportation program • Positive leadership image for the district • SRTS policy that can bring positive change to entire district
Transportation Planner	• Understands the transportation program at a district level	• Potential to save money by reducing pressure on bus service
School Siting Decision Maker	• Encourage new school development projects to consider walkability and bikeability	• Deeper understanding of intended & unintended school siting consequences • Improved communication with community
School Principles	• Understands big picture with school policies, engineering, and infrastructure projects • Integrate SRTS program into overall school goals and curriculum	• Increased safety, health, and academic performance for students • Well-rounded transportation program • Positive image of the school
Teachers and Staff	• Integrate SRTS lessons into curriculum • Encourage faculty to participate	• Improved attention and academic performance from students
Parent Teacher Organization	• Engaged community of parents and teachers • Provide peer-to-peer communication with other parents	• Low barrier to entry by participating as part of an existing PTO • Safer environments for students, parents, and teachers • Increased community involvement
Parents	• Assist in identifying barriers to school walking and bicycling along school routes • Provide insight on parent concerns • Provide peer-to-peer communication to other parents	• Healthier, more attentive students • Improved safety for walking and biking to school, and in the community • Save travel time and gas money if children can independently travel to and from school • Increased community involvement
Students	• Identify everyday barriers to bicycling and walking • Act as role models to encourage other students to participate	• Improved physical fitness • Independent mobility/autonomy • Improved academic performance • Community involvement/ leadership
Community Volunteers	• Provide support for program • Serve as liaisons to community partners	• Safer streets, and healthy and informed children • Opportunity to aid the community
Law Enforcement	• Information on traffic safety/statistics in the community • Enforce traffic laws near school campus	• Opportunity for positive interactions with young people in the community • Improved behavior from drivers, pedestrians, and bicyclists
Traffic Engineer	• Knowledge of the physical infrastructure in a community	• A well-rounded transportation system that addresses all modes of travel

Local Planner	• Knowledge of land-use issues impacting schools • Involved in developing master plans and school siting decisions	• Support for planning efforts that support walkable and bicycle-friendly communities
Public Works Representative	• Knowledge of city projects impacting schools • Involved in developing master plans and school siting decisions	• Informed about school and community goals around bicycle and pedestrian infrastructure
Tribal Council Representative	• Provide political support for SRTS programs	• Active, healthy young people who understand how to walk and bike in the community safely
Pedestrian and Bike Coordinator	• Provide information about bicycle and walking plans and future improvements	• Supporters for bicycle and pedestrian improvements in the future
Public Health Professional	• Encourage physical activities for students	• Better health outcomes for students • Improved air quality for everyone around the school
Parks and Recreation Department	• Knowledge about how to integrate trails and parks into bicycling and walking routes for students	• Better wayfinding, more users, and increased connections to parks and trails
Community Association	• Partner in communicating SRTS policies and program information with the community	• Safer streets for the community • Better relationships with other community stakeholders
General Community Members	• Provide support for the program • Serve as liaisons to other community partners	• Safer streets, and healthy and informed children • Opportunity to assist in the community
Local Business Representatives	• Provide incentive to students/families who participate in program	• Positive marketing of business • Safer community for everyone
Disabilities Representative	• Provide insight into physical infrastructure and program needs of all users	• Programs and infrastructure that addresses all users' needs

Source:

Minnesota Department of Transporation. (2014). *Engaging Stakeholders in the Safe Routes to School Planning Process: A Guide for Minnesota SRTS Partners.* Minneapolis: Community Design Group.

Appendix B: Engineering treatments

The following considers engineering procedures that reflect the recommendations presented in the paper. All treatments offered here were retrieved from the National Safe Routes to School Partnership website.

Treatment:

Signing and Marking the School Zone

Description/ Purpose	• Signs and pavement markings provide important information to drivers to improve road safety. Examples include retroreflective yellow/green school advance waking signs and SPEED LIMIT 25 MPH WHEN FLASHING signs. • Marked crosswalks help guide children to the best routes to school		
Expected Effectiveness	The limited empirical evidence suggests that signs and pavement markings help educated drivers and improve driving behaviors in school zones		
	Keys to success • SRTS projects should include traffic control plans that include sign and marking recommendations • Traffic signs and pavement markings used	**Key factors to consider** • Sign should be used judiciously, as overuse may breed driver noncompliance and excessive signs may create visual clutter	**Evaluation Methods** • Pedestrian and bicyclist conflicts in School Zone

Treatment:

Sidewalks

Description/ Purpose	Paved walkways that delineate that area of the public right-of-way for pedestrian use and typically separated from motor vehicles by a curb or buffer area		
Expected Effectiveness	• Sidewalks reduce the likelihood of pedestrian crashes by more than half the possibility in areas where sidewalks don't exist (Knoblauch et al., 1987). • Another study found the likelihood of a site with a paved sidewalk being a crash site is 88.2 percent lower than a site without a sidewalk after accounting for traffic volume and speed limits (McMahon et al.,)		
	Keys to success • Careful planning of design and network to ensure functionality and coverage • Inclusion of curb ramps for each crosswalk at an intersection • Providing an adequate buffer between the sidewalk and road	**Key factors to consider** • Overcoming previous road construction projects that ignored the need for sidewalks	**Evaluation Methods** • Frequency and percent of "walking along roadway" crashes • Pedestrian volume

Treatment:

Street Lighting

Description/ Purpose	• Lighting along streets, especially at crosswalks, that more clearly illuminates areas of pedestrian activity to increase motorist visibility and improve nighttime pedestrian security		
Expected Effectiveness	• Better street lighting can reduce nighttime pedestrian crashes and increase the vision and awareness that drivers have relative to pedestrians and improve actual and perceived pedestrian safety and comfort (Pegrum, 1972; Freedman et al., 1975)		
	Keys to success • Installing lighting on both sides of wide streets and avoiding "dark spots." • Using uniform lighting levels	**Key factors to consider** • Acquiring adequate funding • Design issues regarding height and existing objects, such as trees	**Evaluation Methods** • Number and percentage of all nighttime pedestrian crashes • Increased pedestrian activity and reduction in crime

Treatment:

Paths

Description/ Purpose	• Paths are passageways that are used to increase the connectivity of the pedestrian and bicycle network		
Expected Effectiveness	The presence of paths can increase the number of walking and bicycling trips made and decrease the time and distance it takes to travel from one point to another		
	Keys to success • Provide signs to show pedestrians and bicyclists how to access the path network and where it leads • Path design should incorporate appropriate width and number of lanes for anticipated pedestrian and bicycle traffic • Path should connect frequently visited origins and destinations	**Key factors to consider** • Considerations for lighting, maintenance, and safety should be made • Acquiring easements can be a challenge	**Evaluation Methods** • Pedestrian and bicycle volume

Treatment:

Increasing Connectivity

Description/Purpose	• Increasing connectivity of streets, paths, and sidewalks reduces travel distances and make it easier for pedestrians and bicyclists to access destinations		
Expected Effectiveness	The presence of paths, bridges, or other neighborhood connectors can increase the number of walking and bicycling trips and decrease the time and distance it takes to travel from one point to another		
	Keys to success • Sidewalk and roadway connectivity should be considered at the outset of design • Developments can be retrofitted for connectivity with the use of cut-throughs	**Key factors to consider** • Increasing road connectivity may sometimes cause an increase in unwanted through vehicle traffic • In may be possible to retrofit existing, poorly connected street networks with a pedestrian path, bridge, or sidewalk to increase connectivity	**Evaluation Methods** • Pedestrian and bicycle volume

Treatment:

Raised Pedestrian Crosswalks

Description/Purpose	• A speed table the width of a typical crosswalk stretching across an entire intersection, slowing traffic and keeping the crossing at grade with the sidewalks		
Expected Effectiveness	• Decrease in motor vehicle speeds occur • An increase in vehicular yield rates as much as 45 percent due to adding speed tables		
	Keys to success • Should not be sued on sharp curves or steep grades • Visually impaired pedestrians need warning strips at edges to indicate the beginning of the crosswalk	**Key factors to consider** • May not be appropriate if the intersection is part of a bus or emergency route • Potential drainage issues	**Evaluation Methods** • Number of crashes • Severity of Crashes • Motor vehicle speeds • Traffic volume

Source:

Safe Routes to School National Partnership. (2016). *Engineering.* Retrieved from Safe Routes to School Guide: http://guide.saferoutesinfo.org/engineering/index.cfm

Appendix C: Encouragement Strategies

The following are SRTS encouragement strategies and include ongoing activities, mileage clubs or contests, and special events. All activities were retrieved from the National Safe Routes to School Partnership website.

Ongoing Activity: Walking School Bus

Definition	Group of children that walk or bicycle to school together accompanied by one or more adults	
Advantages	• Can be loosely organized or highly organized • Can include a meeting point with a parking lot so children and parents who must drive can participate	
Consideration	• Requires identifying appropriate routes • Requires parents to walk with children of use waivers to address liability concerns • More organized structure requires considerable planning • Bicycle train participants need to wear helmets	
Quick Steps to Activity	**Informal Structure** 1. Invite families who live nearby to walk or bicycle as a group 2. Pick a route and take a test walk or ride 3. Decide how often the group will travel together 4. Start walking or bicycling	**Formal Structure** 1. Determine the amount of interest in a WSB. Contact potential participants and partners and identify a coordinator 2. Determine the route(s) 3. Identify enough adults to supervise walkers or bicyclists (one adult per three children ages 4 to 6; one adult for six children ages 7 to 9; one adult per three to six children) 4. Finalize logistical details including setting a schedule, training volunteers and promoting participation 5. Kick of the activity and track participation 6. Make changes to the activity as needed

Ongoing Activity: Park and Walk

Definition	Instead of driving to the school, families drive to a remote parking lot and walk to remainder of the trip
Advantages	• Includes families who live too far to walk or have an unsafe route • Encourages neighborhood involvement • Reduces traffic congestion at the school
Consideration	• Requires identifying a safe route from the parking area to the school • Requires working with the parking lot owners
Quick Steps to Activity	1. Locate a parking lot within walking distance of the school. Collaborate with the lot owner to allow use 2. Map a safe route to school from parking area 3. Recruit volunteers if parents are not required to walk with their children 4. Promote it 5. Kick off and track participation

	6. Make changes to the activity as needed
Ongoing Activity: On-Campus Walking Activities	
Definition	Walks are held on the school campus during the school day such as during physical education classes or recess, or occur before or after school
Advantages	• Includes children that may not otherwise be able to participate in SRTS activities
Consideration	• Needs school or volunteer coordinator and support from administration • May require time in the school schedule
Quick Steps to Activity	1. Identify a coordinator and obtain school's support 2. Determine the scope of the activity: who will be involved? When will they walk? Where will they walk? For how long will they walk? 3. Set goals for walkers either by accumulated distance, amount of time or number of days walked 4. Obtain incentives (optional) 5. Promote 6. Kick off 7. Track participation 8. Make changes to the activity as needed

Strategy: Mileage Club or Contest	
Definition	Children are rewarded for walking and bicycling, usually based on reaching certain distances or walking or bicycling a certain number of times
Advantages	• Can provide quick reinforcement for walking and bicycling • Children like incentives • Can include all students • Can include walking and bicycling beyond the trip to school
Consideration	• Needs a coordinator • Requires record-keeping • Should be age appropriate and simple in design
Quick Steps to Activity	1. Identify coordinator and (if necessary) obtain school's support 2. Decide where children can accrue mileage – on the way to school, at home, on the school campus 3. Create system for logging and tracking mileage or number of times walked/bicycled 4. Decide on incentives 5. Promote 6. Kick off 7. Recognize and reward participation; track participation 8. Make changes as needed

Strategy:

Special Events

Description	Specially designated day when families walk or bicycle to school • May include a group walk from a designated meeting point; healthy snacks; giveaways for children; an assembly; media coverage and the use of walkability and bikeability checklists
Advantages	• Less labor intensive than ongoing activities • Opportunity to engage broader community, including politicians and other community leaders, and bring visibility for SRTS • Opportunity to involve diverse groups of students and adults in a common activity • Opportunity to gain media coverage
Consideration	• Requires providing a route, or routes, that will be safe for all participants who may not be a route from their homes • Should include all students, including students with disabilities • Limited ability to promote daily walking to school
Quick Steps to Activity	1. Find partners including parents, school personnel, law enforcement and community members 2. Plan the celebration, including a safe route and any needed volunteers and incentives 3. For International Walk to School events, register at www.walkbiketoschool.org/registration 4. Promote the event 5. Have fun

Source:

Safe Routes to School National Partnership. (2016). *Encouragement.* Retrieved from Safe Routes to School Guide: http://guide.saferoutesinfo.org/encouragement/index.cfm

Appendix D: Minnesota Walk! Bike! Fun! Curriculum

The following curriculum was retrieved from the Minnesota Walk! Bike! Fun website.

Walk! Curriculum		Bike! Curriculum	
Lesson 1	**Traffic and You** Goal: To develop an understanding of how to walk safely near traffic	**Lesson 1**	**Bicycle Ridership and Safety** Goal: To develop an understanding of the importance of traffic laws and how they pertain to driving a bicycle *Bonus Lesson:* Rules of the Road
Lesson 2	**Visual Barriers and Model Street Crossing** Goal: To develop an understanding of how to safely cross the street around barriers	**Lesson 2**	**Protect Your Melon** Goal: To understand the brain and brain functions and importance of bike helmets and proper fit *Bonus Lesson:* Courtesy & Communication
Lesson 3	**Crossing Intersections** Goal: To develop an understanding of how to safely cross the street at an intersection	**Lesson 3**	**Before You Go** Goal: To recognize the parts of a bike and understand the importance of conducting a quick safety check before riding *Bonus Lesson:* Tuning your Mind and Body
Lesson 4	**Neighborhood Walk and Celebration** Goal: To demonstrate mastery of skills learned in the pedestrian safety curriculum	**Lesson 4**	**Changing a Flat** Goal: To understand why it is important to know how to fix a flat tire and what equipment is needed to change a flat *Bonus Lesson:* Quick Reaction
		Lesson 5	**Getting Started and Getting Stopped** Goal: To develop the basic riding skills of using the "power pedal" position and braking
		Lesson 6	**Drive my Bike Like a Car** Goal: To develop basic riding skills of scanning and proper positioning on the road
		Lesson 7	**Riding on the Road** Goal: To understand how to be predictable, ride on the right, make proper turns, and navigate intersections
		Lesson 8	**Going for a Ride! A Two-Day Activity** Goal: To gain confidence in safe on-road bicycling and demonstrate safe bicycling skills

Source:

BikeMN. (2017, May 1). *Curriculum Summary Document.* Retrieved from BikeMN: http://www.bikemn.org/education/walk-bike-fun/srts-education-curriculum

Appendix E: Relevant Examples

Example 1: Fond du Lac Reservation, Minnesota

The Fond du Lac Reservation in Minnesota was the first reservation in the state to have completed an SRTS plan, which began in the spring of 2009. Planning was conducted by the members of the reservation in partnership with the Arrowhead Regional Development Commission (ARDC). The planning process began with the formation of an SRTS committee, where site observations were taken, and parent/student surveys were administered. Through the ARDC partnership, the SRTS committee could identify goals and develop a timeline for implementation. On August 25th, 2009, the SRTS committee submitted their plan to the Fond du Lac Business Committee, where a resolution was passed. The strategic planning process began in January 2010 which:

a. Sought to incorporate a key engineering action item of the SRTS plan
b. Focus was completion of a paved trail from the local convenience store to the Ojibwe School, covering a two-mile distance
c. Trail was named Gikinoo Inamon – Path to School
d. Helps create better connectivity between residential areas and the school for students
e. Providing all residents with a safe accommodation for walking and biking along a busy main road
f. Federal Transportation Enhancement Funds funded trail

Source:
Arrowhead Regional Development Commission. (2009). *Fond du Lac Reservation Completes Safe Routes to School Plan.* National Center for Safe Routes to School.

Example 2: Cherokee Nation, Oklahoma

The Cherokee Nation in Northeast Oklahoma was determined to improve the health of community members and received funding through the CDCs Communities Putting Prevention to Work Program. This program encourages participants to live healthier lives through commercial tobacco prevention, nutrition promotion, and physical activity encouragement. Once the program was underway, the Cherokee Nation expanded their scope by partnering with the city of Collinsville, Oklahoma. This partnership allowed for the Cherokee nation to make infrastructure investments that not only addressed health improvement initiatives but to improve safety as well. Lastly, the Cherokee Nation implemented a complete streets policy that required all roadway projects to consider the safety of all roadway users. The policy better serves residents that want increase their physical activity levels, while encouraging children to live more active lives.

Source:

Neal, R. (2012). *Cherokee Nation: Partnerships for Active Transportation.* Washington, D.C.: U.S. Department of Transportation, Federal Highway Administration.

Example 3: Flathead Indian Reservation, Ronan, Montana

The city of Ronan, Montana has a population of about 2000, and a school district that serves roughly 1,200 students in one elementary, middle, and high school. The school districts walking/biking policy states that students outside of a 3-mile radius of the school's front door must be bussed, if not driven by a parent or guardian. The number of students that live outside of the 3-mile radius is roughly half of the student population. Also, the Ronan school district covers a portion of the Flathead Indian Reservation, with 58% of the student population being Indigenous. An additional consideration that the school district took was regarding the high incidence of childhood obesity. With given the circumstances, the school district wanted to promote physical activity and provide students with safe options to actively commute to and from school. The city insisted that the school district makes use of the 15-acre park that offers green space for children, which is centrally located. The SRTS plan was to provide a path that cut through the park for students to walk or bicycle to and from school. Lastly, the district had three grant cycles, and are as follows:

A. The first grant was to provide lighting and signage along a bike path and crosswalks through the park. The city was then able to change the speed limit to 15 mph at a crossing where the bike path crosses two main town corridors
B. The second round of the grant was used for encouragement and enforcement.
    a. SRTS provides 3 to 5 officers during high traffic times to enforce the speed limit on the state highway near the crosswalks, and their presence has made a difference, and highway traffic has slowed without officially reducing the speed limit.
    b. Ronan has provided SRTS items such as water bottles, Frisbees, hacky sacks, reflectors to stick on bike helmets and more.
    c. Ronan hosted Bike Path Appreciation Day on April 25th, 2009
C. The third round was for an additional infrastructure project.
    a. Add 400 new feet of path in the park that will connect the state path in town
    b. Bicycle racks for school in school colors after noticing an increase in bikes locked up outside during the school year

Source:

Rolfsness, J. (2009). *Safe Routes to School in Action: Ronan, Montana.* Ronan: Safe Routes to School National Partnership.